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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,588	06/08/2000	Akira Kitamura	1197-00	1857

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EXAMINER

DANG, THUAN D

ART UNIT	PAPER NUMBER
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1764

9

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

GB

Application No.

09/589,588

Applicant(s)

KITAMURA ET AL.

Examiner

Thuan D. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 2, 5-10, drawn to a general process including transalkylation, dealkylation, or disproportionation, classified in class 585, subclass 400-489.
- II. Claim 3, drawn to a transalkylation process, classified in class 585, subclass 470.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, functions, or effects. For example, while during transalkylation reactions, alkyl-groups of aromatics are interchanged each other, during dealkylation reactions, alkyl-groups of aromatics are not but removed from themselves.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention: claim 3 is directed to a transalkylation process.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 10 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Newly submitted claims 1 and 2 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: applicants never claim a dealkylation or disproportionation process.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, processes including dealkylation and disproportionation are withdrawn from consideration as being directed to non-elected species. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 5-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Buchanan et al (WO 96/24568).

Buchanan discloses a process of (transalkylation) converting a feedstock containing C9+ aromatics and benzene and less than 1 wt% of non-aromatics in the presence of a zeolite catalyst containing a group VIII metal and hydrogen to a product containing (Buchanan: the abstract; tables 1, 4; page 3, lines 29-32; page 5, lines 21-32; and the whole for details).

Buchanan discloses in tables 1 that benzene and C7 and C8 aromatics are present in the reactants and products. Since C9+ aromatics and benzene are reactants (abstract), they must be reduced during the process. In a transalkylation process of between C6 aromatics and C9+ aromatics, average aromatics including C7 and C8 are inherently expected to be produced.

Claim Rejections - 35 USC § 103

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al (WO 96/24568) in considered with Haag et al (4,016,218).

Buchanan discloses a process as discussed above.

Buchanan does not disclose that a mordenite is used as a zeolite for the catalyst. However, on page 3, lines 29-32, Buchanan discloses that a zeolite having a CI of from 0.5 to 3 can be used (also see column 4, lines 1-13 of Haag).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Buchanan process by using mordenite as the zeolitic

component of the catalyst to arrive at the applicants' claimed process since mordenite has the CI of 0.5.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al (WO 96/24568) in consideration with the admitted prior art disclosed in the specification of this application.

Buchanan discloses a process as discussed above.

Buchanan is silent as using a starting benzene feed containing non-aromatics which is derived from gasoline fractionation (see the whole patent Buchanan). Buchanan is also silent as to reducing the non-aromatic hydrocarbons from the mixture of benzene and C9 aromatic to at most 1% by weight. However, as discussed above, the transalkylation feedstock of Buchanan requires only a minor amount of non-aromatics and one having ordinary skill in the art has recognized that the benzene fraction extracted from gasoline contains a large amount of non-aromatics (the paragraph bridging pages 2 and 3 of the specification of this application).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Buchanan process by employing the benzene fraction derived from gasoline in the place of the benzene in the Buchanan process since it is expected that using of any benzene for the transalkylation with other higher aromatics in the Buchanan process yields similar results.

It would have been obvious to one having ordinary skill in the art at the time the invention was made by further modified the Buchanan process by removing any non-aromatics from the mixture of benzene and the C9 aromatics as discussed above to arrive at the applicants'

claimed process since the transalkylation feed of Buchanan requires only a minor amount of non-aromatics.

Response to Arguments

Applicant's arguments filed on 1/22/02 have been fully considered but they are not persuasive.

The argument that Buchanan teaches conversion of heavy aromatics to lighter aromatics including benzene is not persuasive since as discussed above, C9+ aromatics and benzene are reactants (abstract), they must be reduced during the process. In a transalkylation process of between C6 aromatics and C9+ aromatics, average aromatics including C7 and C8 are inherently expected to be produced.

The argument that "Obvious to try" is not the standard under § 103 is not persuasive since Buchanan clearly disclose processes containing less than 1% of non-aromatics.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 703-305-2658. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Thuan D. Dang
Primary Examiner
Art Unit 1764

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April 22, 2002

A handwritten signature in black ink, appearing to be 'Thuan D. Dang', written in a cursive style.